

Celitement® Production Starts

**Construction of a Pilot Plant for Environmentally Compatible Cement on KIT Campus North –
EUR 5 Million Invested**



*The head office of Celitement® will presumably be ready in spring 2011.
(Figure: Schelling Architects)*

Celitement® is a novel type of cement – environmentally compatible and energy-efficient. So far, KIT scientists have produced Celitement® on the laboratory scale only. After more than one year of extensive and very successful tests, pilot plant construction is now starting on KIT Campus North. This is the next step on the way towards the marketability of the environmentally compatible cement. Five millions are invested by Celitement GmbH, a spin-off of the four inventors, KIT, and the industry partner Schwenk. From spring 2011, the pilot plant will supply 100 kg of Celitement® daily.

Journalists are cordially invited to come to the groundbreaking ceremony of the Celitement® pilot plant on Thursday, July 08, 11.00 hrs on KIT Campus North (Eggenstein-Leopoldshafen, Grabener Straße, near building 707). Kindly register using the form enclosed.

The new building will also accommodate the head office of Celitement GmbH. Production of this novel cement at the pilot plant is aimed at further developing the production process and testing the cement for various applications in the construction sector. The environmentally compatible cement shall be brought on the market



KIT Energy Center: Having future in mind

**Dr. Elisabeth Zuber-Knost
Press Officer**

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-7414
Fax: +49 721 608-3658

**For further information, please
contact:**

Monika Landgraf
Press Office
Phone: +49 721 608-8126
Fax: +49 721 608-3658
E-mail: monika.landgraf@kit.edu

as soon as possible. By 2014, a product from a first industrial plant shall be available to meet the ecological challenges of cement and construction industry in the long term.

Compared to conventional cement production processes, Celitement® promises to result in enormous savings of energy due to considerably reduced production temperatures. From today's perspective, Celitement® has the potential of reducing energy consumption for production by up to 50% compared to Portland cement. In addition, far less lime is required.

Apart from energy efficiency, the emission balance is path-breaking. Compared to conventional processes, production of Celitement® will presumably be associated with half of the carbon dioxide emissions only.

Annually, cement works are emitting more than two billion tons of the greenhouse gas carbon dioxide (CO₂), which correspond to 5% of the worldwide CO₂ emissions. Consequently, CO₂ emissions of cement production exceed those of worldwide air traffic by a factor of 3-4. If – and this is the vision of the inventors – all cement works worldwide would use the Celitement® process, from raw materials only half a billion ton less carbon dioxide would be emitted into the atmosphere every year, and climate protection effects would be enormous.

The Celitement® project and potential savings are studied within the framework of accompanying research. The Federal Ministry of Education and Research (BMBF) is funding the scientific aspect of the Celitement® project under the framework program “Research for Sustainable Developments”, funding action “Innovative Technologies for Resource Efficiency – Resource-intensive Production Processes”. Among others, material and energy balances, the quality of the products, and the sustainability of the processing chain are being analyzed.

**Program of the groundbreaking ceremony for the pilot plant on
Thursday, July 08, 11.00 hrs:**

Welcome

Professor Eberhard Umbach, President of KIT

Welcome Address

**Klaus Tappeser, Head of Department, Ministry of Science,
Research, and Arts of the State of Baden-Württemberg**

Celitement® – A Success Story of KIT

Dr. Peter Fritz, KIT Vice President for Research and Innovation

Celitement® – A Challenge for the Cement Producer

Gerhard Hirth, Managing Director of Schwenk Zement KG

For further information on Celitement®, see www.celitement.de.

Karlsruhe Institute of Technology (KIT) is one of Europe's leading energy research establishments. The KIT Energy Center pools fundamental research with applied research into all relevant energy sources for industry, households, services, and mobility. Holistic assessment of the energy cycle also covers conversion processes and energy efficiency. The KIT Energy Center links competences in engineering and science with know-how in economics, the humanities, and social science as well as law. The activities of the KIT Energy Center are organized in seven topics: Energy conversion, renewable energies, energy storage and distribution, efficient energy use, fusion technology, nuclear power and safety, and energy systems analysis.

Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg, Germany. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT focuses on a knowledge triangle that links the tasks of research, teaching, and innovation.

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